

Haruki HIRABAYASHI*: **Chromosome numbers in
Japanese species of *Dryopteris* (1)**

平林春樹*: 日本産オシダ属の染色体数 (1)

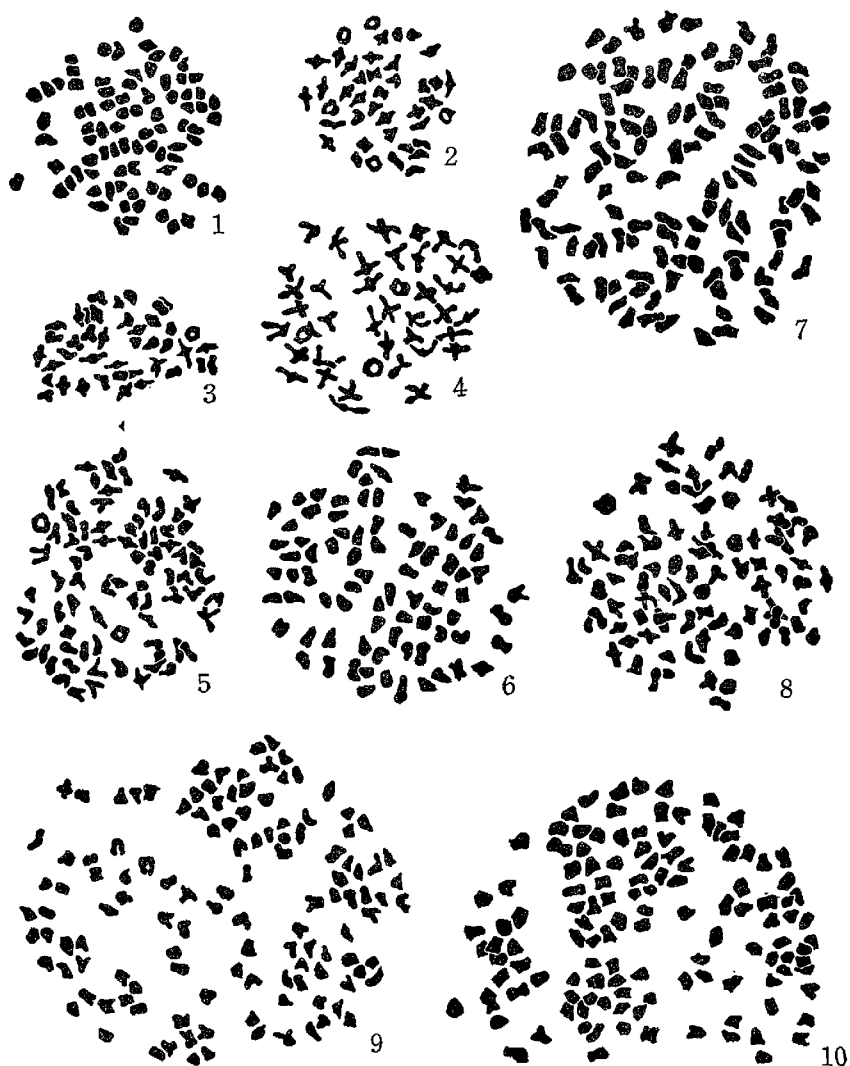
The genus *Dryopteris* of Japan comprises about 45 species and some varieties. Chromosome counts for Japanese species of the genus have been made by some investigators. The results of my counts are given in Tab. 1. Chromosome counts were made on spore mother cells using the aceto-carmine squash method.

Three gametic chromosome numbers, $n=41$, 82 and 123 are recognized in the genus *Dryopteris* of Japan. Manton (1950) investigated cytology of *Dryo-*

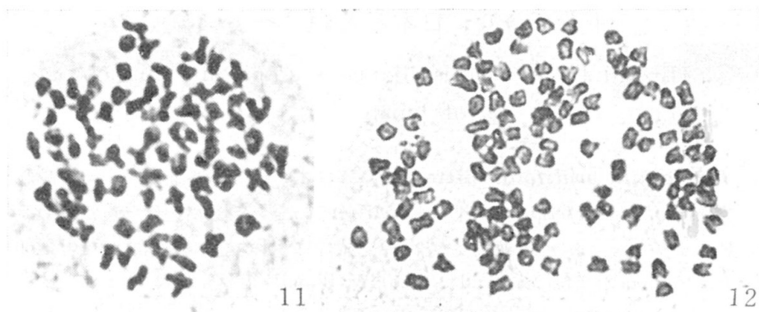
Tab. 1. Chromosome numbers in Japanese species of *Dryopteris*.

Name of species	Japanese name	Chromosome number	Locality	Figure
<i>D. crassirhizoma</i> Nakai	Osida	$n=41$	Karuizawa, Nagano Pref.	3
<i>D. lacera</i> O. Kuntze	Kumawarabi	$n=41$	Mitakesan, Tokyo Pref.	—
<i>D. polylepis</i> C. Chr.	Miyama-kumawarabi	$n=41$	Arahuneyama, Nagano Pref.	2
<i>D. sabaiei</i> C. Chr.	Miyama-itatisida	$n=41$	Koyasan, Wakayama Pref.	4
<i>D. sparsa</i> O. Kuntze	Nagabano-itatisida	$n=82$	Owase, Mie Pref.	5
<i>D. uniformis</i> Makino	Okumawarabi	$n=82$	Takaosan, Tokyo Pref.	8, 11
"	"	$n=82$	Noziri, Nagano Pref.	—
<i>D. varia</i> O. Kuntze	Itatisida	$n=82$	Tyohu, Tokyo Pref.	1
<i>D. yabei</i> Hayata	Itatisida-modoki	$n=82$	Nati, Wakayama Pref.	6
<i>D. atrata</i> Ching	Iwahego	$n=123$	Takaosan, Tokyo Pref.	—
<i>D. chinensis</i> Koidzumi	Misakikaguma	$n=123$	Titibu, Saitama Pref.	9
<i>D. erythrosora</i> O. Kuntze	Benisida	$n=123$	Manazurumisaki, Kanagawa Pref.	10, 12
<i>D. hondoensis</i> Koidzumi	Ohbenisida	$n=123$	Owase, Mie Pref.	7

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Figs. 1-10. Chromosomes at meiosis. All ca. $\times 1000$. 1. *D. varia* ($n=82$). 2. *D. polylepis* ($n=41$). 3. *D. crassirhizoma* ($n=41$). 4. *D. sabaei* ($n=41$). 5. *D. sparsa* ($n=82$). 6. *D. yabei* ($n=82$). 7. *D. hondoensis* ($n=123$). 8. *D. uniformis* ($n=82$). 9. *D. chinensis* ($n=123$). 10. *D. erythrasora* ($n=123$).



Figs. 11, 12. Photomicrographs of chromosomes at meiosis. Both ca. $\times 1000$.

11. *D. uniformis* (cf. Fig. 8). 12. *D. erythrosora* (cf. Fig. 10).

pteris in Britain and West Europe, and found the numbers $n=41$, 82, 123, 164 and 205. On Japanese species, Kurita (1960) reported the number $n=41$ for *D. lacera* O. Kuntze, and Mitui (1965) found the number $n=82$ in *D. dickinsii* C. Chr. (Ohkuzyaku) and $n=123$ in *D. atrata* Ching and *D. bissetiana* C. Chr. var. *sacrosancta* H. Ito (Himeitatisida). Therefore 41 is a common basic number in *Dryopteris*.

I wish to express my cordial thanks to Prof. H. Ito, Tokyo University of Education, for his review of the manuscript and identification of the materials.

Literature cited

Manton, I., 1950. Problems of cytology and evolution in the Pteridophyta. Cambridge Univ. Press. Kurita, S., 1960. Journ. Jap. Bot. **35**: 269-272. Mitui, K., 1965. Journ. Jap. Bot. **40**: 117-124.

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日本産オシダ属のうちの 12 種について染色体数を調べ、次のような結果を得た。 $n=41$ のもの、オシダ、クマワラビ、ミヤマクマワラビおよびミヤマイタチシダ。 $n=82$ のもの、ナガバイタチシダ、オクマワラビ、イタチシダおよびイタチシダモドキ。 $n=123$ のもの、ミサキカグマ、イワヘゴ、ベニシダおよびオオベニシダ。これらの結果および Manton らの結果から考え、41 という数はオシダ属における基本数として普遍的なものであるといえよう。